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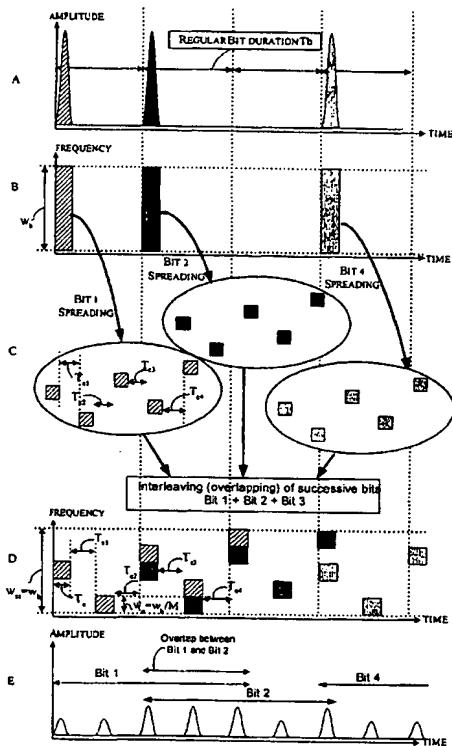
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(54) Title: ENHANCED OPTICAL FAST FREQUENCY HOPPING-CDMA BY MEANS OF OVER SPREADING AND INTER-LEAVING



(57) **Abstract:** A method and an optical communication system for a practical implementation of fast frequency hopping-code division multiple access in optical networks allowing higher transmission bandwidth is provided. The method comprises the step a) of providing a fast frequency hopping CDMA coded optical signal comprising a plurality of user's bits of a plurality of users. The method also comprises the step b) of over spreading in a time axis each of the user's bits of the fast frequency hopping CDMA coded optical signal. The method also comprises the step c) of interleaving each of the user's bits of a given user with a successive user's bit of the given user. After steps a), b) and c), the method comprises the step d) of transmitting the fast frequency hopping CDMA coded optical signal over the optical network. The method also comprises, after step d), the step e) of over de-spreading in the time axis each of the user's bits of the fast frequency hopping CDMA coded optical signal. The method also comprises the step f) of deinterleaving each of the user's bits of the fast frequency hopping CDMA coded optical signal from the successive user's bit.

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